The Genera of Recent and Fossil Shells, for the use of Students in Conchology and Geology. By G. B. Sowerby, *F.L.S. With original Plates, by* J. D. C. Sowerby, *F. L. S.* No. xxvii.

In this number, as in the preceding ones, five genera are illustrated. 1. *Siliquaria;* an interesting genus of *Annelida*, separated from the Linnæan *Serpulæ* by Bruguière; the very splendid specimen of the *S. anguina*, which formed part of the Tankerville collection, being the prominent figure in the accompanying plate. 2. *Octomeris*; a new genus of *Cirripeda* described by Mr. Sowerby, at page 244 of our present volume. 3. *Pinna;* illustrated by the *P. serrata*, and the *P. nigrina*, forming two plates. 4. *Mytilus;* the species figured being the *M. achatinus; M. crenatus;* and the *M. polymorphus*, a native of the Danube, which has recently been naturalized in the Commercial Docks, near London. 5. *Modiola*, illustrated in two plates, which exhibit the *M. picta*, *M. Silicula?*, *M. Tulipa*, *M. semifusca*, *M. plicata*, *M. discrepans*, and *M. discors*. The two latter species, which are natives of the British coasts, differ much, as Mr. Sowerby observes, from the common *Modiolæ*, and might, perhaps, with propriety be considered, together with some others, that resemble them in form, as constituting a distinct genus.

Art. LXII. *Proceedings of Learned Societies on Subjects connected with Zoology.*

ROYAL SOCIETY.

At the Anniversary Meeting of the Royal Society, held on St. Andrew's Day, Nov. 30. 1825, the under-named Fellows were elected Council and Officers for the ensuing year:

Of the Old Council.—Sir H. Davy, Bart.; Francis Baily, Esq.; W. T. Brande, Esq.; Samuel Goodenough, Lord Bishop of Carlisle; Davies Gilbert, Esq. M.P.; J. F. W. Herschel, Esq.;

Sir Everard Home, Bart.; Captain H. Kater; John Pond, Esq.; W. H. Wollaston, M.D.; Thomas Young, M.D.

Of the New Council.—John Barrow, Esq.; John Bostock, M.D.; Sir A. P. Cooper, Bart.; Benjamin Gompertz, Esq.; Stephen Groombridge, Esq.; Sir Abraham Hume, Bart.; Daniel Moore, Esq.; Richard, Earl of Mount Edgecombe; P. M. Roget, M.D.; James South, Esq.

President.—Sir H. Davy, Bart.

Secretaries.—W. T. Brande, Esq., and J. F. W. Herschel, Esq.

Treasurer.—Davies Gilbert, Esq., M.P.

Dec. 8.—A paper was read, entitled, *Additional proofs of the source of Animal Heat being in the Nerves.* By Sir E. Home, Bart. V.P.R.S.

This paper contains the account of a repetition of the author's former experiments, upon the effects of dividing the nerves supplying the velvet of the deer's horn, in which the same results have been obtained; while some exceptionable parts of the former proceedings have been carefully avoided. It was now found, as before, that immediately upon the division of the nerves of one horn, the temperature of that horn was diminished sometimes to the amount of 7°, and that in the course of ten or twelve days, the disparity of temperature between the two horns began to cease, and they ultimately again attained precisely the same temperature. When this had taken place, the deer was killed, and the parts were carefully dissected and examined; when it was found, that the interval occasioned by the recession of the divided nerves, was filled up by a newly-formed substance, which firmly connected them; and this explained the restoration in their functions, which had taken place.

In further proof of the influence of the nerves over the evolution of heat, independent of mere sanguineous circulation, Sir Everard adverts to a case of aneurism, in which he tied the femoral artery immediately below Poupart's ligament. The obstruction of this large arterial trunk, however, did not occasion any diminution of temperature in the foot, below the natural standard.

Dec. 15.—The President announced to the Society His Majesty's munificent foundation of two annual prizes, consisting each

of a medal of the value of fifty guineas, to be bestowed as honorary distinctions by the President and Council, on the authors of such new discoveries as they may deem worthy of the award; and in such manner as shall best promote the objects for which the Royal Society was instituted; and the interests of science in general.

Dr. J. R. Johnson, F.L.S. elected into the Society in 1817, and whose name had then been inserted in its printed lists, was admitted a Fellow of the Society; and the *Croonian Lecture*, by Sir E. Home, was read. The subject of this lecture was the Structure of Muscular Fibre.

Dec. 22.—Gideon Mantell, Esq. F.L. & G.S. was admitted a Fellow of the Society; and the following papers were read:

On the Poison of the Common Toad; by J. Davy, M.D. F.R.S. The popular belief in the venomous nature of the Toad, Dr. Davy states, though of great antiquity, has been rejected as a vulgar prejudice by modern naturalists, decidedly so by Cuvier; but like many other long-received and prevalent opinions, it is a true one, and the denial of it by philosophers has resulted from superficial examination. Dr. D. found the venomous matter to be contained in follicles, chiefly in the cutis vera, and about the head and shoulders, but also distributed generally over the body, and even on the extremities. On the application of pressure, this fluid exudes, or even spirts out to a considerable distance, and may be collected in a sufficient quantity for examination. It is extremely acrid when applied to the tongue, resembling the extract of aconite in this respect, and it even acts upon the hands. It is soluble, with a small residuum, in water, and in alcohol, and the solutions are not affected by those of acetate of lead and corrosive sublimate. On solution in ammonia, it continues acrid; it dissolves in nitric acid, to which it imparts a purple colour. By combination with potash or soda, it is rendered less acrid, apparently by partial decomposition. As left by evaporation of its aqueous or alcoholic solutions, it is highly inflammable; and the residuary matter, which appears to give it consistence, seems to be albumen. Though more acrid than the poison of the most veno-

mous serpents, it produces no ill effect on being introduced into the circulation; a chicken inoculated with it was not affected.

The author conjectures that this "sweltered venom," as it is correctly termed by our great Dramatist, being distributed over the integuments, serves to defend the Toad from the attacks of carnivorous animals: "to eat a toad," has long been held as an opprobrious difficulty; and the animal is still further protected in this respect by the horny nature of its cutis, which contains much phosphate of lime, &c. As the venom consists in part of an inflammable substance, it is probably excrementitious, and its excretion auxiliary to the action of the lungs in decarbonizing the blood. This view of its use is confirmed by the fact that one of the two branches of the pulmonary artery supplies the skin, its ramifications being most numerous where the follicles of venom are thickest.

Dr. Davy has found the skin of the Toad to contain *pores* of two kinds; the larger, chiefly confined to particular situations, and which, when the skin is held up to the light, appear as iridescent circles, and the smaller, more numerously and generally distributed, which appear as luminous points of a yellowish colour. Externally these pores are covered with cuticle, and some of the larger ones even with rete mucosum; internally they are lined with delicate cellular tissue. By inflating the skin, Dr. D. ascertained that it was not furnished with spiracula, the existence of which he had been led to suspect by some particular circumstances in the physiology of the animal.

On the Heart of Animals belonging to the Genus Rana; by the same author. Dr. Davy has discovered that the heart of the Common Toad, the Bull Frog, and the Common Frog, instead of consisting of one auricle and one ventricle, as generally stated, has two auricles, divided by a septum of fibrous substance; and he has reason to believe that this structure prevails throughout the order of *Batraciens*. This discovery removes the anomaly among Reptiles supposed to be presented by these animals, as forming a portion of the link between Mammifera and Fishes, and preserves unbroken the chain of connection between Reptiles

and Fishes, arising from the analogy of their respective organs of respiration.

Feb. 16.—A paper was read, On the Circle of Nerves which connects the voluntary muscles with the Brain; by Charles Bell, Esq. F.R.S. E. Communicated by the President.

LINNEAN SOCIETY.

December 6.—A continuation was read, of A Systematic Catalogue of the Australian Birds in the Collection of the Linnean Society; by N. A. Vigors, jun. Esq. F.L.S. and Thomas Horsfield, M.D. F.L.S. and G.S.* This portion of the Catalogue included the subfamilies *Plyctolophina* and *Palæornina*, of the *Psittacidæ*.

December 20.—The reading of the Catalogue of Australian Birds was continued; and a paper was also read, containing Descriptions of some new species of Birds belonging to the genera *Phytotoma*, *Indicator*, and *Cursorius*; by Mr. Benjamin Leadbeater, F.L.S.

January 17.—A paper was read, On some Cornish Species of the Genus *Labrus;* by Mr. Jonathan Couch, F.L.S. Among other species noticed in this communication were *Labrus Julis; Tinca* (Common Wrasse); *cornubiensis* (Goldsinny); *microstoma* (Corkwring); *trimaculatus;* and *Comber:* also *Perca inermis*.

February 7.—A paper was read, entitled, "A description of the *Plectrophanes Lapponica*, a species lately discovered in the British Islands: by Prideaux John Selby, Esq. F.L.S. M.W.S., &c."

The bird described by Mr. Selby is the Lapland Bunting, *Fringilla Lapponica*, Linn., *Emberiza calcarata*, Temm., Fam. *Fringillidæ*, Vigors; Genus *Plectrophanes*, Meyer.

This genus is intermediate between *Alauda* and *Emberiza*. It approaches the former in the thickness of the bill, the form of the feet, and the production of the hinder claw. Its affinity to *Emberiza* is shewn by the peculiar form of the bill, characteristic of that genus: it differs from it, however, in having the first and

* See the present volume, p. 137, 279, 281.

second quill-feathers nearly equal in length, and the longest in the wing.

March 21.—A paper was read, entitled, "Descriptions of two new Birds belonging to the family of *Phasianidæ*, by Major-General Hardwicke, F.L.S.

The first of these birds is a species of M. Temminck's genus *Lophophorus;* and General Hardwicke proposes to call it *L. Wallichi*, after Dr. Wallich, the distinguished Curator of the India Company's Botanic Garden at Calcutta; through whose exertions, aided by the influence of the Hon. Edward Gardner, the English resident at the court of Katmandu, many interesting subjects in Ornithology have been procured. In beauty, it is not inferior to the Impeyan Pheasant, another species of *Lophophorus*, which it resembles in size. It is a native of the Almorah hills on the north-eastern boundary of Bengal, where it is called *Cheer*.

The second species is a true *Phasianus*, and will form, together with *P. cruentus*, a small but well-marked group of that interesting genus. General Hardwicke denominates it *P. Gardneri*. It is a native of the Snowy Mountains, north of the valley of Nepâl.

April 4.—Dr. Penneck presented the skins of *Delphinus Delphis* and a species of *Sparus*, taken on the coast of Cornwall.

A paper was read, *On the quinary and dichotomous arrangements in Natural History;* by H. T. Colebrooke, Esq. F.R.S., F.L.S., &c.

ZOOLOGICAL CLUB.

July 12, 1825.—The Secretary exhibited a specimen of the *Ardea comata*, Pall., or the *Squacco Heron* of British Ornithologists, which was communicated to him by Mr. Leadbeater for the information of the Club. This rare visitor of the British Islands was lately shot near Bridgewater. Its weight was eight ounces.

Mr. J. E. Gray, at the request of the Secretary, exhibited numerous specimens of the group of *Cirripedes*, Lam., and he entered upon a historical sketch of the progress of natural science with respect to these animals. He also exhibited a diagram illustrative of the five families contained in that group, and

he pointed out their distinguishing characters, and at the same time the circular succession of affinities by which they succeed each other.

July 26.—Mr. Bell exhibited a series of specimens of the *Chelonian Reptiles*, and more particularly of the genera *Testudo*, Auct., *Emys*, Brongn., *Terrapene*, Merr., and *Kinosternon*, Spix. He dwelt on these two latter genera in particular, which compose the group commonly known by the name of *Box Tortoises;* and he illustrated the characters of a new genus which he had added to the group, his genus *Sternothœrus*, from specimens which he laid before the meeting.

November 8.—A paper was read entitled "Descriptions of some new species of birds belonging to the genera *Phytotoma*, Gmel., *Indicator*, Vieill., and *Cursorius*, *Lath.*," by Mr. Benjamin Leadbeater, F.L.S.

November 22.—The Secretary exhibited a specimen of the Tabuan Parrot, *Psittacus Tabuensis*, Lath., belonging to Mr. Leadbeater, and which that gentleman requested to be laid before the meeting. In the course of some observations on the occasion, the Secretary entered into the history of the specimen, which is one of the two individuals brought home from the Island of Tongataboo by the late Captain Cook. He afterwards explained the situation of this rare species in the family of *Psittacidæ*, referring it to the genus *Platycercus*, one of the lately characterised groups of that family.

Mr. Brookes exhibited several specimens of Birds referable to the genera *Dendrocolaptes*, Herm., *Synallaxis*, Vieill., &c. One of these presented a new type of the family of *Laniadæ*.

Mr. Vigors read a continuation of the "Catalogue of New Holland Birds in the Collection of the Linnean Society;" by Dr. Horsfield and himself.

On *November* 29, the second Anniversary Meeting of the Zoological Club took place, when the following members were appointed Committee and Officers for the year ensuing.

J. E. Bicheno, Esq. Sec. L.S. *Chairman;* J. F. Stephens, Esq. *Treasurer;* N. A. Vigors, Esq. *Secretary;* Joseph Sabine, Esq.,

Joshua Brookes, Esq., E. T. Bennett, Esq., J. G. Children, Esq., Thomas Bell, Esq., and W. J. Broderip, Esq.

December 13.—Mr. Stephens exhibited specimens of six species of the genus *Dytiscus*, Auct., recently collected in the counties of Huntingdon and Cambridge. Three of these species he stated to have been hitherto unnoticed as natives of the British Islands, and two of these three to be as yet undescribed. He pointed out their names and affinities as follows :

* *Sterni bifidi processu obtuso.*

I. D. dimidiatus. *Gyllenhal.*

1. D. punctulatus. *Fab.*

** *Sterni bifidi processu acuto.*

a. Fœminæ elytris sulcatis.

3. D. marginalis. *Linn.*

4. D. circumflexus. *Fab.*

5. D. angustatus. *Steph.*

b. Fœminæ elytris sine sulcis.

9. D. excrucians. *Steph.*

The last section of these insects, in which the females are without the furrows on the elytra, Mr. Stephens described as leading immediately to the genus *Trogus*, Leach. He added that there are several continental species referable to this section : among others, *D. flavoscutellatus*, Fab. He also exhibited a specimen of *Buprestis œnea*, Fab., which had been lately captured in Devonshire.

Mr. Vigors read a continuation of the "Catalogue of New Holland Birds in the Collection of the Linnean Society" by Dr. Horsfield and himself. In this portion of the paper, the Australian species of the family of *Caprimulgidæ* were described; and the birds themselves, belonging to the genera *Podargus*, Cuv., *Caprimulgus*, Auct., and *Ægotheles*, Vigors and Horsf., of which the type is the *Crested Goatsucker* of White's Journal and Phillips's Botany Bay, were exhibited to the meeting. Mr. Vigors also illustrated the affinities of the family by exhibiting

several additional species belonging to it, from his own cabinet and that of Mr. Leadbeater: in particular, two undescribed species of the South American genus *Nyctibius*, Vieill.; and several specimens of the true *Caprimulgus*, among others *C. psalurus*, Temm., ♂ and ♀; *C. macrodipterus*, Afzel.; a new species from Africa figured by Dr. Latham in the new edition of his "Synopsis" as the *Long-tailed Goatsucker;* &c. &c.

January 10, 1826.—Mr. Bell exhibited a living specimen of the *Grison*, an animal described by Buffon under the name of *Fouine de la Guiane*, by Linnæus under that of *Viverra vittata*, and by Desmarest as the *Gulo vittatus*. He entered at considerable length into a history of its habits, as observed by him during the last ten months; dwelling particularly on its determined pursuit of *Reptiles*, which had proved fatal to two *Alligators* in his collection, and on its fondness for eggs. Its mode of eating the latter he stated to be peculiar. After playing with them for a considerable time, it secured them between its fore paws, and inserted one of its canine teeth through the shell, so as to form an orifice, through which it sucked so much of the contents as it could obtain by these means. This orifice it afterwards enlarged by degrees, continuing to suck, until it was enabled to insert its tongue; and when at length it could obtain no more by these processes, it broke up the shell completely, and licked clean the inside of each separate fragment. Mr. Bell therefore conjectured that *Reptiles* and the eggs of *Birds* formed the proper food of the animal in a state of nature, so far at least as could be judged from his own specimen, which was completely domesticated, and as playful and harmless as a cat. This individual he added, had been taken from a nest while yet young by the captain of a trading vessel, had been preserved as a playmate for his children, and had thus become completely familiar; exhibiting, (except in its attacks upon living *Reptiles*,) none of those ferocious and sanguinary traits of character described by Captain Stedman in his Voyage to Guiana. Its appetite Mr. Bell stated to be by no means voracious, neither did it ever become somnolent after its meal. Differing in these respects materially from the habits of the genus *Gulo*, and distinguished also by its four molar

teeth on each side of the lower jaw, Mr. Bell conceived that it ought no longer to be referred to that genus. He therefore declared his intention of characterizing it at an early opportunity, as the type of a new genus to which he proposed to assign the name of *Galictis*.

The same gentleman also exhibited a living specimen of an undescribed species of *Coluber* from Brazil, the upper surface of which was dark fuscous crossed by obsolete red *fasciæ*, and the under surface yellow, marked with bright red undulated *fasciæ*, closely resembling the veining of certain marbles. This animal he also stated it to be his intention to describe at the earliest opportunity.

Mr. Bell also exhibited a living specimen of his recently described species of *Terrapene*, the *T. nebulosa*, remarkable as being twice the size of any previously noticed species of *Box Tortoise*.

Mr. Stephens exhibited specimens of the *larva* of an *Ichneumon*, which fed upon the *larvæ* of *Lcrura vinula*. They were disturbed by him in September last, at the moment of their being about to become *pupæ*. Two only underwent the transformation: from these Mr. Stephens hopes to ascertain the species. The remainder after spinning a considerable quantity of web, did not appear to have sufficient strength to complete their change. They have since remained in the same state and still are alive.

The Secretary read a Paper entitled "Description of the *Plectrophanes Lapponica*, Meyer, (*Fringilla Lapponica*, Linn.,) a specimen of which was captured some time since in Cambridgeshire," by P. J. Selby, Esq. F.L.S., M.W.S., &c.

January 24.—The Secretary exhibited a specimen of the *Anas rufina* of Pallas, [*Fuligula rufina* of Shaw's Zoology,] which had been lately met with in Leadenhall Market, among some ducks that had been taken in a decoy during the late severe season. It was observed that the species is not uncommon in the Menageries of this country; and that a specimen might have escaped from confinement, and been found at large with others of the same family. But on the other hand it appeared that the specimen was in a perfect state of plumage and consequently

could not have been lately in a domesticated state; neither could it have regained its perfect plumage after having formerly escaped from confinement, as it appeared to be a young bird of last year. There appeared every reason to suppose that the individual was an accidental visitor of this country, driven over here by the late severe weather, and consequently that it had a claim, like other occasional visitors of these Islands, to a place in the British Fauna.

Mr. Vigors read a continuation of the "Catalogue of the New Holland Birds in the Linnean Society's collection," by Dr. Horsfield and himself.

February 14.—Mr. Vigors read some extracts from a letter which he received from W. S. MacLeay, Esq. F.L.S., dated from the Havannah, December 27th, 1825. The extracts consisted of Ornithological observations made by that gentleman, during his voyage from England to the Island of Cuba, in the months of October, November, and December, 1825; including remarks on the Ornithology of the Islands of Madeira, Teneriffe, and St. Jago; as also a few cursory observations made at Barbadoes, Martinique, and off the coast of St. Domingo, on the same subject.

Mr. Vigors entered into an explanation of the natural affinities that connect the tribe of *Tenuirostres* in Ornithology; pointing out the different subdivisions or families into which it is separated, and illustrating the chief character of each by a reference to the typical species, which he exhibited to the Club. He dwelt chiefly on the family of *Trochilidæ*, most of the leading forms of which he produced before the meeting; and he signified his intention of continuing the subject at a subsequent meeting of the Club.

February 28.—Dr. Horsfield exhibited a specimen of a Mammiferous Animal, lately described by M. F. Cuvier under the name of *Ailurus fulgens*, which had been procured in Nepâl, and subsequently presented to the Linnean Society by Major General Hardwicke. Dr. Horsfield pointed out to the meeting the distinguishing characters of this animal, and entered into an explanation of the station which it appears to hold in a natural arrangement of the *Mammalia*. The specimen from which M. F. Cuvier drew his description being defective, particularly with

respect to its teeth, the details into which Dr. Horsfield was enabled to enter in consequence of the perfect state of preservation of the animal in the Society's collection, and which he signified his intention of speedily submitting to the public, were of considerable importance and interest.

A paper entitled "Observations on a species of *Simia*, Linn., now alive in the collection at Exeter Change, allied to, if not identical with, the *Simia Lagothrica* of Baron Humboldt;" by Edward Griffiths, Esq. F.L.S., &c. was read by the Secretary.

GEOLOGICAL SOCIETY.

November 4.—A paper was read entitled, "An Account of some Geological Specimens collected by Captain P. P. King, in his Survey of the Coasts of Australia; and by Robert Brown, Esq., on the Shores of the Gulf of Carpentaria, during the Voyage of Captain Flinders; by W. H. Fitton, M.D. V.P.G.S., &c. The only part of this paper which requires notice in the Zoological Journal, is an account of a recent breccia containing shells, of which the following is an abstract:

The shore on the western coast of Australia is in several places covered with extensive dunes of sand, with which are associated in many instances beds and masses of a very recent arenaceous breccia, abounding in shells concreted by carbonate of lime. This formation, which is particularly remarkable in the islands and on the shores adjacent to Shark's Bay, about latitude 25°, is analogous to that which occurs very extensively in Sicily, at Nice, and several other places on the shores of the Mediterranean, and of the West Indian Islands, and on many parts of the coasts within the Tropics. In New Holland it generally consists of sand, cemented by stalagmitic or tufaceous carbonate of lime, containing angular fragments of a compound of the same nature, but previously consolidated and broken, along with numerous shells and fragments of shells, very nearly resembling those of the adjacent seas. Its date appears to be more recent than that of the beds

which constitute the Paris and London basins; but anterior to the accumulation of the diluvial gravel.

The calcareous concretions of New Holland have in some instances a tubular and stem-like appearance; and have thence been mistaken for corals, and petrified branches of trees.

November 18.—A Notice was read, respecting the appearance of Fossil Timber on the Norfolk Coast; by Richard Taylor, Esq., of Norwich. In consequence of an extraordinary high tide which visited the coast of Norfolk on the 5th of February 1825, large portions of the cliffs, sometimes exceeding 200 feet in height, were precipitated into the sea, and an opportunity was afforded of examining the site of a stratum containing a number of fossil trees, exposed on the east and west side of the town of Cromer. In this singular stratum, composed of laminæ of clay, sand, and vegetable matter, and about four feet in thickness, the trunks were found standing as thickly as is usual in woods, the stumps being firmly rooted in what appears the soil in which they grew. They are invariably broken off about a foot and a half from the base. The stem and branches lie scattered horizontally; and amongst them are thin layers of decomposed leaves, but no fruits or seed-vessels. The species of timber appear to be chiefly of the Pine tribe; with occasional specimens of elm and oak: they are flattened by the pressure of the overlying alluvial strata. Mr. Taylor has not observed any animal remains in the stratum, except the skull of one of the Deer tribe; but he supposes that the bones of Elephants and other herbivorous animals, found near this site, may have been washed out of the same bed.

December 2.—A paper was read entitled, "An Account of an undescribed Fossil Animal from the Yorkshire Coal-field; by John Atkinson, F.L.S., and Edward Sanderson George, F.L.S.

December 16.—A paper was read, "On the Chalk and Sands beneath it (usually termed Green Sand), in the vicinity of Lyme Regis; by H. T. De la Beche, Esq. F.G.S., &c."

Mr. De la Beche observes, that we ought not to suppose that the sands, marles, and clays, which are immediately subjacent to the chalk in the east of England, can be traced into other and distant countries, where however these sands, &c. as a mass, may

be easily recognized. That this cannot be done, even at comparatively short distances, it is the object of this communication to prove, by examples derived from the cliffs at Lyme Regis, in Dorsetshire, and Beer, in Devonshire; detailed sections of which are given, and the succession of the strata, and the organic remains which they contain, fully described. The author first treats of the chalk, and the sands and sandstone, usually called green sand, as they occur between Lyme Regis and Exmouth; and then notices the same formations as they are exhibited in the vicinity of Beer.

From this examination it appears, that though there is a great correspondence in the organic remains, considerable changes take place in the mineral composition and characters of the beds both of chalk and underlying sands, in short distances. Mr. De la Beche considers it probable that the Beer-stone is the equivalent of the Malm-rock of Western Sussex.

A paper was also read, entitled, "Geological Sketch of Part of the West of Sussex, and the N. E. of Hants, &c.; by R. I. Murchison, Esq. F.G.S., &c."

In this memoir, Mr. Murchison describes the geological relations, distribution, and characteristic fossils of the strata of that part of the west of Sussex, which is bounded on the south by the chalk escarpment of the South Downs; and of that part of Hampshire which is included by the Alton Chalk Hills. These strata, commencing below the chalk, in a descending series, are, 1. Malm-rock, or Upper Green Sand; 2. Gault; 3. Ferruginous Green Sand; 4. Weald Clay. The Weald clay in the valley of Harting Combe may be regarded as the central nucleus of this district, mantling round which, and extending up to either chalk range, the other formations are developed, in regular succession: the breadth and boundaries of each are laid down by the author on a coloured portion of the Ordnance map, to which a section is annexed.

The malm-rock of Western Sussex is identical with the stone of Merstham: it is characterized by constituting terraces which afford a rich soil favourable to wheat. It sometimes furnishes a building stone, contains occasionally a calcareous blue chert, and abounds in organic remains.

The gault of this district has been cut through to the depth of 120 feet, at Alice Holt, and iridescent Ammonites and other fossils are found in it. This clay is marked by fertile water-meadows, and the timber presenting a green belt clearly distinguishes it from the rich wheat land of the malm rock above, and the arid expanse of the ferruginous green sand below it.

Of this latter formation, the upper beds consist of pure white sand, and in some places compact ironstone, and ironstone in large cellular tubes are found. In the middle beds occurs a calcareo-siliceous grit, called Bargate stone; in the lower, a siliceous yellow building stone, containing casts of Ammonites, *Terebratulæ*, &c. The Weald clay includes in its middle beds the compact Petworth marble, and in lower beds of clay, in which tabular calcareous grit occurs, Mr. Murchison has discovered, together with scattered shells of the *Vivipara fluviorum*, the bones of a large unknown vertebrated animal, specimens and drawings of which accompany this memoir.

January 20, 1826.—The reading of a paper was concluded, "On the Geology of Jamaica; by H. T. De la Beche, Esq. F.R.S. F.G.S., &c." The following is an abstract of a portion of Mr. De la Beche's communication, relating to a tertiary formation in Jamaica, and the organic remains it includes.

Trap rocks, consisting of porphyritic conglomerate, porphyry, greenstone, and syenite, shew themselves very extensively in Jamaica, composing the greater part of the St. John's mountains, and the district bordering on the Agua Alta. These trap rocks are found, generally, supporting the *Great White-Limestone formation*, which occupies a very large portion of the whole island. This formation, from the fossils it contains, is referred by Mr. De la Beche to the Tertiary series. It is principally composed of white limestone, most frequently very compact, and then strongly resembling the compact varieties of the Jura limestone. The strata are usually very thick, varying from three to twenty feet in breadth. In some districts, this rock is interstratified with thick beds of red marle, and sandstone, and white chalky marle. The compact limestone constitutes the middle part of the formation: the lower beds consist, chiefly, of sands and marles, some-

times associated with bluish-gray compact limestones, at others with beds of earthy yellowish-white limestone, containing an abundance of organic remains, viz. Echinites, *Ostreæ*, and a particularly large species of *Cerithium*. The upper beds of the formation, are rather chalky, sandy, and marly, and contain numerous remains of the genera *Conus*, *Cerithium*, *Astarte*, *Natica*, &c.; and near the sea coast a great quantity of corals, which frequently have almost a recent appearance.

February 17.—At the Anniversary Meeting of the Society held this day, the following gentlemen were elected Officers and Council for the year ensuing:—

President.—John Bostock, M.D. F.R.S.

Vice-Presidents.—Sir Alexander Crichton, M.D. F.R. and L.S. Hon. Mem. Imp. Acad. St. Petersburgh; Rev. W. D. Conybeare, F.R.S.; William Henry Fitton, M. D. F.R.S.; and Charles Stokes, Esq. F.R.A. and L.S.

Secretaries.—W. J. Broderip, Esq. F.L.S.; R. I. Murchison, Esq.; and Thomas Webster, Esq.

Foreign Secretary.—Henry Heuland, Esq.

Treasurer.—John Taylor, Esq., F.R.S.

Council.—Arthur Aikin, Esq. F.L.S.; Henry Thomas Dela Beche, Esq. F.R. and L.S.; J. E. Bicheno, Esq. Sec. L.S.; Henry Thomas Colebrooke, Esq. F.R.S.L. and E., F.L. and Asiat. Soc.; Sir Charles Henry Colvil; George Bellas Greenough, Esq. F.R. and L.S.; Sir Charles Lemon, Bart. F.R.S.; Armand Levi, Esq.; Charles Lyell, Esq. F.R. and L.S.; William Hasledine Pepys, Esq. F.R.S. L.S. and H.S.; George Poulett Scrope, Esq.; J. F. Vandercom, Esq.; and Henry Warburton, Esq. F.R.S.

March 3.—The reading of Sir A. Crichton's paper, on the Taunus Mountains in Nassau, which had been commenced on the third of February, was concluded.

The valley of the Mayne, which is interposed between the northern and southern chains of the Taunus, consisting of transition and trap rocks, in the duchy of Nassau, is chiefly occupied by low hills of coarse shelly limestone, analogous to the upper freshwater formation of Paris, and quarries of it occur near Wisbaden and Hockheim: *Paludinæ* and *Modiolæ* abound in it. At

Hockheim the beds are much dislocated, and at Wisbaden fossil bones are found, the teeth accompanying which refer them to animals allied to the *Lophiodon tapiroides*, and to the Sumatran Tapir. These calcareous deposits are only 200 feet above the level of the Mayne, and they are perforated in many places by basalt, upon which they rest. The basalt finally disappears south-east of Darmstadt, and is succeeded by primitive rocks. There are strong salt-springs at Soden, and various mineral waters near Frankfort and Hadnigstein.

The Falkenstein mountain, though composed of talc-slate, protrudes through the high table land in the form of basalt. To the north of this the older rocks disappear, and the district is occupied by grauwacké. The grauwacké is divided into quartzy grauwacké and grauwacké slate; the latter is very distinct from micaceous slate, and contains casts of *Spiriferi*, of the *Pleurobranchi* of Cuvier, &c.; the former offers Encrinites, and unknown coralloids.

At the meetings of this Society on *March* 17, *April* 7, and *April* 21, no business was transacted which requires notice in the Zoological Journal; except that at the meeting on *April* 7, R. I. Murchison, Esq. F.R.S., one of the Secretaries, presented a cast of the superior portion of a gigantic Saurian femur, from Sussex.

ROYAL ACADEMY OF SCIENCES OF PARIS.

March 7.—M. de Lacepède made a verbal report on M. Virey's *History of the Human Race.* M. Geoffroy Saint-Hilaire concluded the reading of his Memoir *On the Fossil Reptile of Caen or Teleosaurus;* and he announced another, *On the Skull of the Mummy of a Crocodile found in the Catacombs of Thebes, and on its relations to those of the Animals, presumed to be of the same Species, which now exist in Egypt.* M. Edwards read a Memoir, *On the Muscular Contractions produced by the contact of a solid body with the Nerves, without the Galvanic Action.*

March 14.—M. Cuvier read a Memoir, On the *Myripristis*, a new genus of Fishes of the family of Perches, remarkable for the connexion of its swimming-bladder with its ear. M. Auzoux presented a specimen of artificial anatomy, "*en pâte de carton.*"

March 21—The Academy received in manuscript, *A New Classification of the Animal Kingdom*, by M. Lamouroux. M. Cuvier read a letter from M. Bredin, Director of the Veterinary College of Lyons, on the Fossil Bones discovered in a garden at Calvire, in a place called *la Croix-Rousse*. They have belonged to Horses, Oxen, and Elephants, and there are several assemblages of them. M. Cuvier has recognized them to be truly fossil bones: those of Elephants are of the species called the Mammoth, or the common fossil Elephant. M. Cuvier afterwards read a Memoir, *On the Fresh-water Fishes of India, which have the power of living for a long time out of water, and on the organs from which they derive this power.* These Fishes are found on the trees growing on the banks of certain ponds, at the height of six feet above the water.

March 28.—M. G. Saint-Hilaire exhibited the head of a monstrous Colt, foaled two days before at the Veterinary College at Alfort, and which he had dissected with M. Serres. This head, the left side of which is much larger than the right, does not present, at first sight, in the interior of the cranium, any traces of foramina or of optic nerves, although the eyes were in appearance well formed. M. Serres purposes, by means of comparative researches on the eyes of the Mole and of some other animals, to explain the anomalies in this Colt's head by the common rules of *Encephalogenesis*. M. Traullè read *A Sketch on the Deluge, on its consequences and producing cause, and on the occurrence in the North of the two Continents, of the Bones of Animals belonging to southern Climates.*

April 4.—M. M. Portal and Duméril gave a very favourable report on M. Auzoux's specimen of artificial anatomy.

April 11.—M. G. Saint-Hilaire read a Memoir, entitled *Researches on some facts respecting the organization of the Gavials, and on the necessity of separating them from the Crocodiles, as a distinct genus.*

April 18.—M. Majendie, in the name of a Committee, read a report on M. Dupont's collections of Animals and Anatomical Preparations. The Committee observe, "We have expressed to M. Dupont our satisfaction at the manner in which he has prepared and stuffed the Birds, and preserved the *Papiliones;* but it is not to this kind of merit that we would call the attention of the Academy. M. Dupont has for several years devoted himself, and with indisputable success, to the art of modelling in wax. The articles which have been submitted to us have all the perfection to which this art can be carried. In some respects indeed, such as those of the truth of the colours and transparency of the organs, M. Duponthas surpassed his predecessors. Your Committee are then of opinion that this young naturalist is endowed with the talents necessary for practising with the greatest success the art of modelling in wax, that he merits the commendation of the Academy, and that it is desirable to encourage so useful an art."

April 25.—M. M. Quoy and Gaymard read a Memoir entitled, *A Description of five new genera of* Mollusca, *and four new genera of* Zoophytes, *discovered in the Voyage round the World under Captain Freycinet.* M. Duveau read a Memoir entitled, *New Researches on the Natural History of the Aphides.*

May 2.—M. Moreau de Jonnés commenced the reading of a memoir, entitled, *Monographic researches on the indigenous Dog of the American hemisphere; the different species of it, their synonymy, forms, habits, domestic uses, extinction, geographical distribution and migrations: and on the notions to which they lead, respecting the ancient state of the New World, and the communications of its inhabitants with each other; and their original country.*

May 16.—M. Marcel de Serres transmitted a memoir, *On some remains of the* Mastodon angustidens, *or Mastodon of Simorre, recently found in several parts of Europe, and especially in the neighbourhood of Montpellier.* M. Moreau de Jonnès continued the reading of his memoir *on the American Dog.*

May 23.—M. Geoffroy Saint-Hilaire, on behalf of the Committee for the prize in medical science, proposed the following:

"Give the general and comparative history of the circulation of the blood, in the four classes of vertebrated animals, before and after birth, and at different ages." He also began the reading of a memoir, *On the general views respecting monstrosity, with the description of a new kind observed in the human species, named* aspalasome.

June 8.—The Academy being informed by M. Arago, that he now had at Paris two living Camelions, appointed a Committee to make experiments on the changes of colour which the skin of these animals undergoes. Mr. D. Barry, staff-surgeon in the English service, read a memoir *On the motion of the blood in the veins.*

June 13.—M. Bosc gave a report on M. Duveau's *New researches on the Natural History of the* Aphides.

June 27.—M. Zugenbuhler claimed, by letter, the priority of the ideas stated in Mr. Barry's paper above mentioned; transmitting a copy of a dissertation printed by him six years before, and entitled "*Dissertatio de motu sanguinis per venas.*"

July 4.—M. Bussy read a memoir *On the action of heat upon the fatty bodies.*

July 11.—M. Dupuy read his first memoir *On the distillation of the fatty bodies.*

July 18.—M. Cuvier made a favourable report on the Zoological Collections brought home by the naturalists attached to the late expedition under M. Duperrey.

August 1.—M. de St. Hilaire read an extract from a work on human monsters characterized by the absence of the arbrospinal marrow, and named *anencephala.*

August 8.—A memoir by M.M. Quoy and Gaymard was read, entitled, *Observations on certain* Crustacea, *considered with regard to their habits and geographical distribution; succeeded by the description of some new species, discovered during M. Freycinet's circumnavigation of the globe.*

September 12.—M. G. de St. Hilaire commenced the reading of a memoir entitled *On the beings of the intermediate degrees of the animal scale, which respire both in the air and under water, and which possess respiratory organs of two kinds, developed to a*

certain extent. He presented a specimen of the *Birgus Latro*, in which, besides *branchiæ*, there are organs which M. Geoffroy regards as *lungs*.

September 19.—M. de St. Hilaire continued the reading of his memoir; and on

September 26, he exhibited several living specimens of the common Crab, *C. Mœnas*, and detailed verbally the results of his researches on the respiration of the *Crustacea*.

October 3.—M.M. Quoy and Gaymard read some *Zoological observations on the Corals, made in the bay of Coupang, at Timor, and in the Isle of Guam, in the Mariannes.*

October 24.—M. G. de St. Hilaire read a memoir *On the Olfactory organs of Fishes.*

October 31.—M. Serres communicated a work, in manuscript, *On the comparative Anatomy of Animal Monsters.*

November 7.—M. Latreille was appointed to make a verbal report on M. de Blainville's "*Manuel de Malacologie et de Conchyologie.*" M. de Ferussac read a memoir, entitled, *A methodical view of the class* Cephalopoda, *presenting a new classification;* by M. Dessalines d'Orbigny, jun.

November 14.—M.M. Geoffroy de St. Hilaire, Latreille, and Dumèril gave a report on M. Serres's work *On animal monsters.* M. Dumèril gave a verbal account of M. de Blainville's *Comparative Anatomy.*

November 21.—M. de Blainville was elected a member of the Class of Anatomy and Zoology, in the room of M. de Lacepède, deceased.

November 28.—The President announced that the king had granted a pension of 1200 francs to M. de Savigny.

December 5.—M. Dejean presented a memoir on the tribe of *Simplicipedes*, in the family of *Carabidæ*.

December 12.—M.M. de St. Hilaire and Latreille made a very favourable report on M. d'Orbigny's memoir on the *Cephalopodous Mollusca.*

December 19.—M. Gaymard read a memoir, entitled, *A Description of some* lithophyte polypi *of the genera* Fungia, Caryophyllia, Madrepora, Meandrina, *and* Pocillophora, *observed in*

the Isle of France, at Timor, and at Guam, during the voyage of M. de Freycinet; by M.M. Quoy and Gaymard. M. Bory de St. Vincent informed the Academy of the completion of his great work, on the classification and history of microscopic animals.

January 9, 1826.—M. de St. Hilaire presented a human monster which had been found, embalmed, among the mummies brought from Egypt by M. *Passalacqua;* and he also read a notice on the subject.

January 16.—The same naturalist read a memoir, entitled, *Zoological and Physiological considerations relating to a new genus of monstrosities called* hypognalle, *established to include three species of double-headed Calves, with heads opposed to each other, and attached together by the symphysis of their lower jaws;* and on

January 23, he made a verbal report on Dr. Granville's memoir on Egyptian Mummies.* M.M. Huzard, Chaussier, and Majendie, made a very favourable report on M. Girard's memoir *On the inguinal hernia of the* ruminantia *and the* monodactyli.

E. W. B.

Art. LXIII. *Scientific Notices.*

CONCHOLOGICAL NOTICES BY DR. TURTON.

A fine specimen of the *Panopæa Glycymeris* has been dredged up at Scarborough, and is in the cabinet of Mr. Bean. A single valve, with part of the fish in it, has also been found, more lately, on Abarlady sands in North Britain.

At Scarborough has also been taken the *Buccinum Anglicum* of Lamarck; *B. striatum* of Pennant.

A living specimen of the *Buccinum glaciale* was lately taken by the dredge in Torbay.

* For an abstract of this valuable memoir, see the present volume of the Zool. Journ. p. 272.